

Comparisons of Job Characteristics

Focus Occupation: [Computer Systems Analysts \(15-1051\)](#)

Associated Occupation: [Computer Software Engineers, Applications \(15-1031\)](#)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 82

Focus Occupation: Computer Systems Analysts (15-1051)

Associated Occupation: Computer Software Engineers, Applications (15-1031)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Computers and Electronics	8.4	23.8	19.3	<< Extensive education and/or training may be required
Mathematics	9.2	15.4	11.7	<< Extensive education and/or training may be required
Engineering and Technology	5.7	10.1	11.0	0 Current knowledge level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 76

Focus Occupation: Computer Systems Analysts (15-1051)

Associated Occupation: Computer Software Engineers, Applications (15-1031)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Programming	2.2	14.6	10.2	<< Extensive development of skills in this area may be required
Complex Problem Solving	9.1	14.1	11.9	< A higher skill level may be required
Troubleshooting	4.5	13.5	8.9	<< Extensive development of skills in this area may be required
Systems Evaluation	6.4	13.4	12.7	0 Current skill level may be sufficient
Systems Analysis	6.5	13.3	12.6	0 Current skill level may be sufficient
Mathematics	6.2	12.0	9.7	< A higher skill level may be required
Operations Analysis	5.0	11.4	10.6	0 Current skill level may be sufficient
Technology Design	2.6	10.3	9.7	0 Current skill level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 98			
Focus Occupation: Computer Systems Analysts (15-1051)					
Associated Occupation: Computer Software Engineers, Applications (15-1031)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Deductive Reasoning	10.6	13.6	13.9	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	12.4	10.3	<	Some improvement in abilities may be required
Fluency of Ideas	7.6	11.9	12.7	0	Current ability level may be sufficient
Number Facility	6.3	11.2	9.6	<	Some improvement in abilities may be required
Category Flexibility	9.0	11.1	11.8	0	Current ability level may be sufficient
Originality	7.6	10.8	11.6	0	Current ability level may be sufficient
Selective Attention	8.7	10.5	9.9	0	Current ability level may be sufficient
Speed of Closure	5.9	8.1	8.8	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 95
Focus Occupation: Computer Systems Analysts (15-1051) Associated Occupation: Computer Software Engineers, Applications (15-1031)		
Work Activities	Exclusivity of Activity	
Adjust computer operation system	84	
Communicate technical information	4	
Conduct training for personnel	30	
Consult with customers concerning needs	69	
Design computer hardware or software interface	87	
Design data processing systems	92	
Design data security systems	89	
Design systems in cooperation with colleagues	84	
Develop mathematical simulation models	70	
Develop or maintain databases	30	
Develop tables depicting data	33	
Evaluate computer system user requests or requirements	81	
Evaluate prototype computer software systems	89	
Follow data security procedures	77	
Follow data storage procedures	75	

Make presentations	13
Monitor computer operation	85
Prepare technical reports or related documentation	22
Program computers for electronic engineering applications	87
Program computers using existing software	85
Program mainframe computer	84
Provide technical computer training	82
Recommend software or hardware purchases	85
Revise or correct errors in computer programs, software, or systems	85
Supervise programming personnel	95
Test computer programs or systems	78
Train workers in use of equipment	87
Use computer networking technology	81
Use computer programming language	82
Use computers to enter, access or retrieve data	3
Use knowledge of mainframe computers	78
Use project management techniques	47
Use spreadsheet software	18
Write computer software, programs, or code	84
Write documentation for computer programming	87
Write technical specifications for computer systems, software or applications	92

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 93

Focus Occupation: Computer Systems Analysts (15-1051)
Associated Occupation: Computer Software Engineers, Applications (15-1031)

Tools and Technologies	Exclusivity
Business function specific software	1
Computers	1
Content authoring and editing software	1
Content management software	6
Data management and query software	1
Development software	4
Industry specific software	1
Network applications software	1
Networking software	21
Operating environment software	12
Security and protection software	30
Utility and device driver software	17

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.